

Chapter 8. State Indicators

8-43 Business-Performed R&D as a Percentage of Private-Industry Output

Description

This indicator represents the role of R&D in a state's business activity. The business sector is the largest performer of U.S. R&D. It accounts for more than half of all U.S. applied research funding and a significant portion, over 80%, of all development funding. A high value for this indicator indicates that the businesses within a state are making a large investment in their R&D activities.

The methodology for data collection, assignment to individual states, and developing estimates of R&D spending has changed during the last decade as the transition was made from the Survey of Industrial R&D to the Business R&D and Innovation Survey. Although the U.S. total for industrial R&D spending is consistent between these two survey instruments, estimates for states with smaller economies are generally less precise than those for states with larger economies.

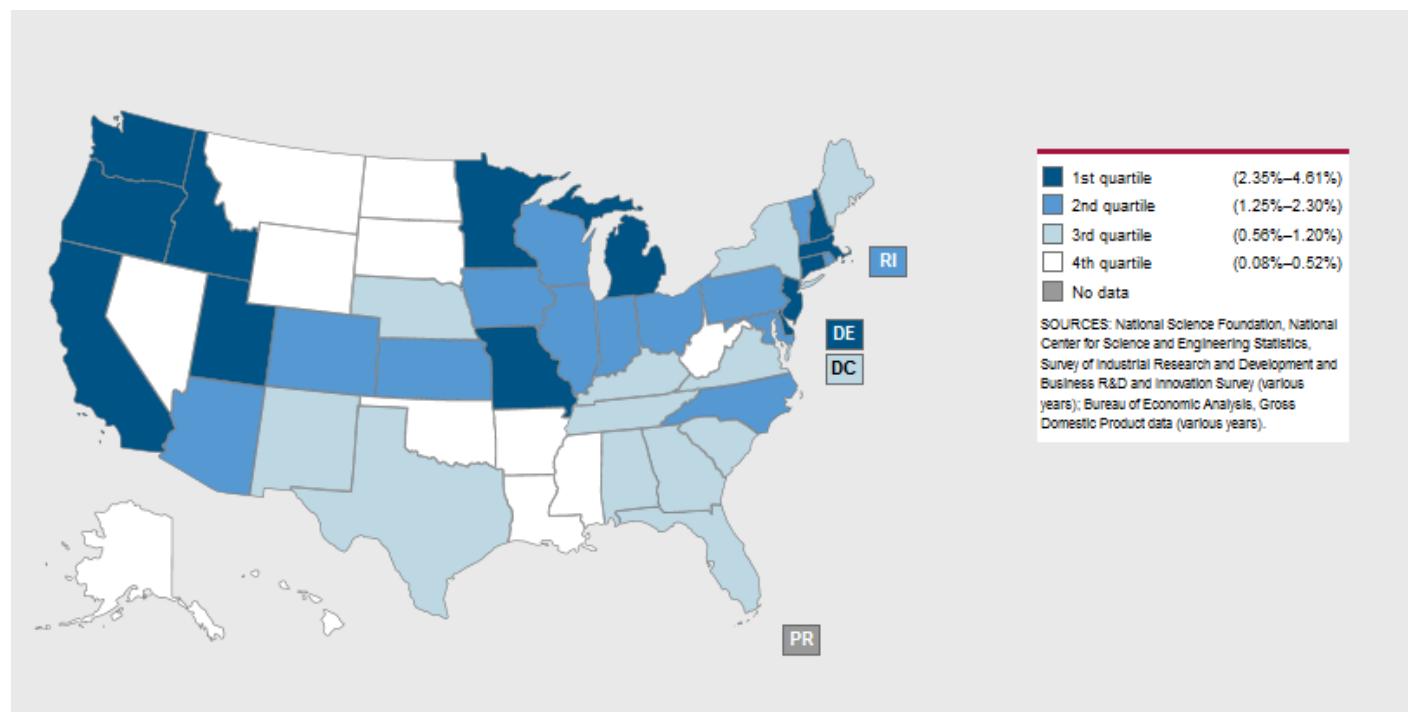
Private-industry output is the portion of state gross domestic product contributed by state businesses.

Findings

- The amount of R&D performed by business rose from about \$201 billion in 2003 to about \$323 billion in 2013, an increase of 61% in current dollars, corresponding to an increase of 31% in constant dollars.
- The value for the United States increased from 2.02% in 2003 to 2.22% in 2013.
- Business performed R&D as a share of private industry output varied greatly among states in 2013, ranging from 0.08% to 4.61%.
- Business R&D was concentrated in a few states—only 14 states had values that exceeded the national average in 2013.

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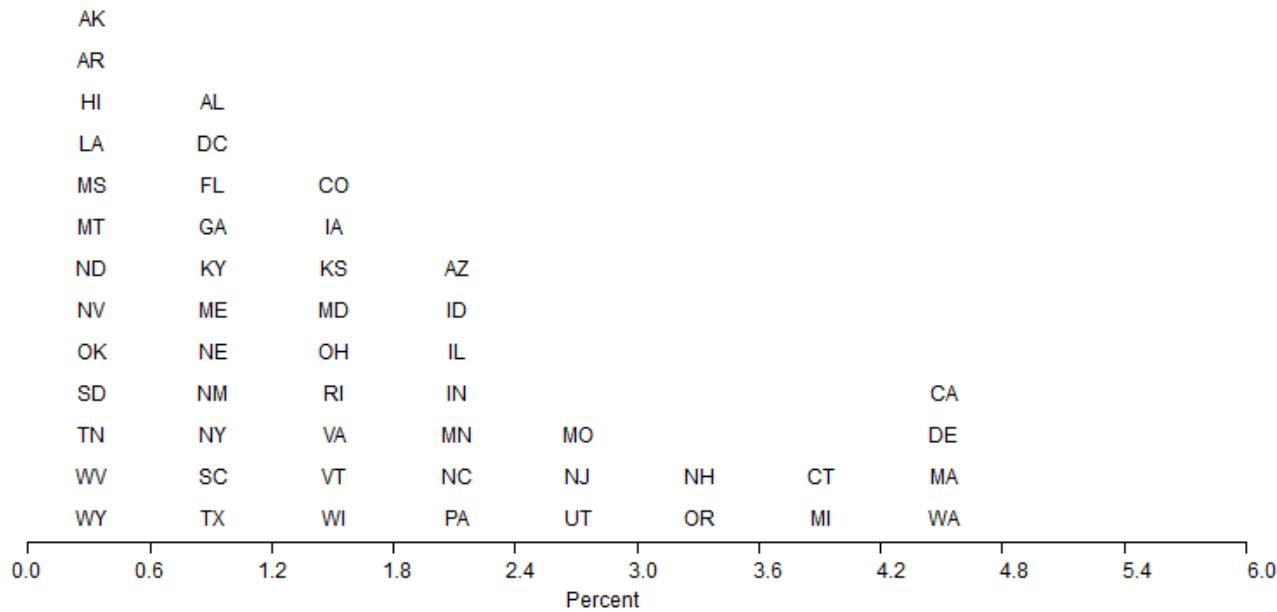
Year: 2013



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Distribution of states across indicator values



Histograms do not display states with extreme values. Please consult the data tables for exact indicator values for each state.

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Table 8-43 Business-Performed R&D as a Percentage of Private-Industry Output

State	Business-performed domestic R&D/private-industry output (Percent)												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
United States	2.11	2.14	2.19	2.26	2.19	2.04	2.02	1.96	1.99	2.06	2.14	2.29	2.29
Alabama	0.68	0.92	0.85	0.81	0.86	0.78	0.87	0.98	1.07	1.32	1.25	2.15	1.13
Alaska	0.12	0.20	0.43	0.23	0.30	0.22	0.14	0.12	0.10	0.13	0.14	0.15	0.18
Arizona	1.61	1.45	1.55	1.51	1.80	2.05	1.56	1.45	1.51	1.66	1.68	2.34	2.24
Arkansas	0.22	0.39	0.55	0.66	0.41	0.35	0.39	0.39	0.35	0.34	0.39	0.49	0.81
California	3.59	3.24	3.45	3.75	3.67	3.35	3.48	3.25	3.29	3.57	3.77	3.90	3.93
Colorado	1.92	2.46	2.31	2.01	1.91	1.72	2.09	2.25	2.22	2.29	2.43	1.80	1.83
Connecticut	2.37	2.50	2.97	2.73	3.01	3.86	3.57	4.00	4.21	4.14	4.45	5.07	5.25
Delaware	3.28	4.16	3.65	3.88	3.14	3.16	3.13	2.31	3.17	2.86	2.86	NA	4.10
District of Columbia	NA	1.81	0.74	0.51	0.58	0.44	0.50	0.35	0.31	0.48	0.61	0.88	1.06
Florida	0.98	0.87	0.87	0.88	0.83	0.77	0.62	0.63	0.67	0.62	0.67	0.63	0.69
Georgia	0.60	0.70	0.75	0.80	0.69	0.75	0.72	0.71	0.70	0.81	0.78	0.94	1.12
Hawaii	0.29	0.19	0.22	0.29	0.28	0.29	0.35	0.31	0.37	0.32	0.43	0.52	0.48
Idaho	4.68	4.17	4.22	4.12	2.75	2.98	2.14	1.80	1.57	1.41	1.53	1.99	2.20
Illinois	1.64	1.83	1.93	1.89	1.82	1.66	1.75	1.70	1.84	1.92	1.95	1.54	1.61
Indiana	1.72	1.73	1.62	1.55	1.92	1.84	1.80	1.94	2.07	2.12	2.01	2.01	2.22
Iowa	0.78	0.99	0.93	0.91	0.97	0.85	0.88	0.91	0.94	0.93	0.98	1.25	1.61
Kansas	1.75	2.03	2.02	1.76	1.67	1.79	2.00	2.08	2.17	2.11	1.24	1.48	1.56
Kentucky	0.40	0.64	0.77	0.77	0.62	0.62	0.55	0.48	0.54	0.65	0.67	0.70	0.75
Louisiana	0.17	0.36	0.46	0.31	0.26	0.20	0.21	0.21	0.17	0.20	0.20	0.21	0.23
Maine	0.32	0.49	0.70	0.81	0.76	0.73	0.56	0.56	0.89	0.61	0.63	0.72	1.23
Maryland	1.12	1.40	1.39	1.44	2.23	2.17	1.70	1.93	1.74	1.54	1.58	1.83	1.87
Massachusetts	3.95	4.68	4.15	4.19	4.45	3.94	3.95	4.03	4.36	4.88	5.82	4.43	4.30
Michigan	4.83	4.45	5.56	5.56	4.58	4.18	4.54	4.45	4.77	4.69	4.42	4.05	3.78

State	Business-performed domestic R&D/private-industry output (Percent)												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Minnesota	2.22	2.24	2.33	2.30	2.45	2.42	2.56	2.50	2.88	2.79	2.85	2.41	2.98
Mississippi	0.15	0.36	0.42	0.44	0.39	0.39	0.33	0.25	0.29	0.32	0.37	0.32	0.35
Missouri	0.89	1.00	1.06	1.19	1.06	0.92	0.97	1.13	1.31	1.30	1.29	NA	NA
Montana	0.58	0.38	0.53	0.43	0.37	0.33	0.31	0.30	0.30	0.38	0.44	0.48	0.49
Nebraska	0.16	0.43	0.46	0.67	0.59	0.64	0.62	0.62	0.63	0.66	0.68	0.76	0.80
Nevada	0.72	0.84	0.78	0.64	0.41	0.45	0.48	0.45	0.36	0.47	0.48	0.59	0.59
New Hampshire	1.94	3.19	3.17	1.85	3.36	2.75	3.05	2.84	2.90	3.45	3.45	4.16	NA
New Jersey	4.01	3.87	3.37	3.27	3.05	3.34	3.17	2.92	3.35	3.52	4.18	4.36	4.32
New Mexico	3.22	3.78	3.32	2.83	0.54	0.75	0.71	0.84	0.72	1.13	0.91	1.13	1.01
New York	1.57	1.58	1.77	1.60	1.43	1.19	1.08	1.05	1.05	0.99	1.10	1.18	1.09
North Carolina	1.77	1.64	1.63	1.88	1.75	1.41	1.63	1.59	1.67	1.64	2.01	1.80	1.59
North Dakota	0.25	0.32	0.66	0.55	2.17	0.91	1.15	1.93	0.50	0.53	0.51	1.08	0.84
Ohio	1.85	1.79	1.96	1.80	1.91	1.71	1.66	1.39	1.43	1.61	1.66	1.71	1.64
Oklahoma	0.64	0.54	0.79	0.60	0.66	0.50	0.65	0.43	0.40	0.41	0.43	0.44	0.43
Oregon	1.26	1.47	1.51	1.50	2.65	2.21	2.68	2.47	2.52	2.38	2.41	2.56	2.57
Pennsylvania	2.08	2.22	2.14	2.31	2.34	1.80	1.74	1.87	1.97	2.08	2.11	1.94	1.99
Rhode Island	2.88	5.13	4.81	3.99	3.69	3.44	3.47	3.56	3.60	3.27	1.01	1.34	1.13
South Carolina	0.94	1.12	0.97	1.07	0.90	0.99	0.87	0.84	1.16	1.09	1.06	0.90	0.94
South Dakota	0.16	0.23	0.31	0.44	0.41	0.22	0.30	0.27	0.25	0.34	0.43	0.40	0.44
Tennessee	0.81	1.66	1.42	1.02	0.90	0.74	0.83	0.84	0.62	0.68	0.76	0.73	0.69
Texas	1.34	1.55	1.41	1.51	1.41	1.52	1.48	1.35	1.40	1.37	1.32	1.46	1.49
Utah	2.14	2.15	1.85	1.78	1.87	1.72	1.47	1.48	1.53	1.39	1.75	1.94	2.14
Vermont	1.82	0.81	2.32	2.45	2.04	1.65	1.97	2.18	1.79	1.74	1.95	1.96	1.95
Virginia	1.00	1.33	1.29	1.21	1.26	1.22	1.38	1.49	1.49	1.55	1.51	1.90	1.86
Washington	3.98	3.90	3.56	3.97	4.32	4.01	4.16	3.81	3.83	4.19	4.29	4.59	5.53
West Virginia	NA	1.00	1.00	0.92	0.58	0.71	0.57	0.50	0.55	0.47	0.48	0.64	0.67
Wisconsin	1.23	1.32	1.42	1.49	1.48	1.53	1.45	1.38	1.35	1.44	1.58	1.75	1.68
Wyoming	0.23	0.16	0.49	0.25	0.18	0.13	0.21	0.11	0.13	0.09	0.11	0.16	0.14



NA = not available.

NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years); Bureau of Economic Analysis, Gross Domestic Product data (various years).

Science and Engineering Indicators 2016

State	Business-performed domestic R&D (\$millions)												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
United States	157,539	169,180	184,129	201,962	202,017	193,868	200,724	208,301	226,159	247,669	269,267	290,681	282,393
Alabama	589 i	845	823	821 i	905	846	992	1,227	1,417	1,835	1,771	3,099	1,562
Alaska	24 i	37 e	82 e	48 e	68	51 e	36 e	35 e	32 e	49 e	58 e	69	71
Arizona	1,854	1,801	2,109 i	2,182 i	2,707	3,201	2,604	2,570	2,980	3,590	3,846	5,232	4,682
Arkansas	118	213 e	326	400	254 e	225 e	270	287	271	285	339	443	709
California	34,011	32,856	38,169	45,455	44,628	42,177	46,401	46,614	50,683	58,424	64,187	67,532	64,939
Colorado	2,248	3,180	3,266	3,143	3,082	2,823	3,543	4,008	4,299	4,657	5,223	4,019	3,960
Connecticut	3,014	3,346	4,145 i	4,132 i	4,686	6,077	5,834	7,177	7,885	8,273	9,444	10,518	10,638
Delaware	1,009 i	1,356 i	1,295 i	1,468 i	1,232	1,219	1,298	1,059	1,511	1,446	1,472	NA	2,046
District of Columbia	NA	598 i	268 e	196 e	242	194	235	182 e	166	276	379	571	672
Florida	3,442	3,265	3,482	3,773 i	3,755	3,707	3,155	3,486	4,164	4,139	4,569	4,178	4,329
Georgia	1,273	1,617	1,904	2,159 i	1,912	2,107	2,104	2,160	2,282	2,786	2,788	3,344	3,905
Hawaii	87	55 e	68 e	93 e	93	103	133	131	168	155	218	269	240
Idaho	1,181 i	1,103 i	1,239	1,363	884	992	745	681	642	625	726	961	1,015
Illinois	6,248	7,318	8,102	8,393 i	8,232	7,616	8,319	8,554	9,712	10,765	11,362	8,900	9,188
Indiana	2,677	2,922	2,863 i	2,888 i	3,583	3,572	3,658	4,208	4,610 i	4,858	4,939	4,991	5,220
Iowa	578	750	730	762	817	753	833	963	1,039	1,055	1,202	1,509	1,943
Kansas	1,136 i	1,384 i	1,448 i	1,327 i	1,299 i	1,427 i	1,675 i	1,804 i	1,993 i	2,064 i	1,304	1,600	1,616
Kentucky	359	606	777	762	636	656	601	565	660	839	890	933	986
Louisiana	172	377 e	516 e	364 e	316 e	248 e	289	311	300	367	373 e	411	416
Maine	83	137	208	255	249	250 i	200	213	350	253	265	308	530
Maryland	1,425	1,905	2,020	2,213	3,682	3,800	3,118	3,826	3,706	3,421	3,665	4,333	4,492
Massachusetts	8,300	10,367	9,781	10,857	11,756	10,609	11,092	11,819	13,342	15,562	19,488	15,028	14,422
Michigan	13,009	12,554	16,877	17,489 i	14,283	13,565	15,217	15,170	16,752	16,477	15,736	13,742	11,999
Minnesota	3,116	3,367	3,695	3,971	4,355	4,460	5,003	5,199	6,340	6,296	6,636	5,728	6,880
Mississippi	73	183 e	224 e	242 e	219 e	224	199	160	194	231	279	252	260
Missouri	1,290 i	1,505	1,664	1,978	1,792	1,592	1,742	2,151	2,602	2,675	2,736	NA	NA
Montana	92	63	92 e	78 e	70 e	66	65	70	77 i	103 i	134	148	144



Business-performed domestic R&D (\$millions)

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
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NA = not available. e = more than 50% of the cell value is imputed due to raking of state data; i = more than 50% of value is imputed due to reasons other than raking of state data;

NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data. Please see source for information on estimation techniques.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years); Bureau of Economic Analysis, Gross Domestic Product data (various years).

Science and Engineering Indicators 2016

State	Private-industry output (\$millions)												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
United States	7,459,395	7,894,015	8,403,164	8,956,010	9,223,548	9,499,527	9,950,967	10,627,989	11,366,297	12,045,446	12,572,387	12,716,179	12,352,979
Alabama	86,848	91,663	96,879	101,018	105,009	108,727	113,454	124,732	132,679	138,792	141,811	144,089	138,549
Alaska	20,529	18,745	19,265	21,240	22,948	23,318	25,178	28,247	32,554	36,771	40,902	46,079	40,354
Arizona	114,833	124,428	135,997	144,916	150,107	156,171	167,243	177,637	197,887	216,845	229,079	224,019	208,954
Arkansas	52,857	54,971	58,976	60,560	62,097	64,798	68,743	74,472	78,361	83,248	86,742	89,840	87,112
California	946,508	1,015,503	1,107,194	1,211,685	1,216,925	1,260,216	1,335,036	1,433,234	1,539,904	1,637,045	1,704,458	1,733,808	1,653,778
Colorado	117,114	129,141	141,188	156,340	161,655	164,019	169,167	177,821	193,407	203,615	215,222	223,835	216,986
Connecticut	127,120	134,064	139,342	151,547	155,833	157,502	163,631	179,536	187,408	199,607	212,338	207,657	202,778
Delaware	30,771	32,617	35,465	37,854	39,254	38,561	41,452	45,772	47,626	50,515	51,389	48,650	49,868
District of Columbia	30,785	33,005	36,108	38,237	41,748	44,260	47,225	51,560	54,293	57,428	61,874	64,975	63,134
Florida	350,969	376,385	401,574	428,260	453,729	481,354	511,897	556,984	620,812	664,435	679,918	658,369	623,925
Georgia	212,172	232,056	253,440	268,561	277,507	281,706	290,542	306,329	326,956	342,259	357,466	357,408	348,820
Hawaii	29,948	29,444	30,544	32,455	33,693	35,322	37,897	41,798	45,877	48,695	51,274	52,195	50,267
Idaho	25,234	26,477	29,386	33,071	32,178	33,264	34,893	37,769	40,898	44,385	47,400	48,199	46,046
Illinois	381,203	399,906	419,966	444,603	453,056	460,023	475,452	501,856	527,148	559,709	582,407	579,446	571,632
Indiana	155,879	169,207	176,898	185,990	186,688	193,708	203,765	217,038	222,561	229,252	245,239	247,716	235,162
Iowa	74,253	75,791	78,330	83,954	84,431	88,266	94,232	105,434	110,042	113,717	122,045	120,897	120,503
Kansas	65,007	68,342	71,611	75,570	77,923	79,923	83,931	86,740	91,784	97,689	105,011	107,856	103,476
Kentucky	90,751	95,217	100,519	99,479	102,531	106,220	110,243	116,618	123,231	130,032	131,980	134,105	131,351
Louisiana	103,500	106,095	111,104	117,322	122,463	122,669	137,023	150,721	177,813	185,447	186,990	194,756	184,631
Maine	26,339	27,723	29,631	31,640	32,967	34,401	35,873	38,309	39,454	41,257	42,168	42,716	42,934
Maryland	127,394	135,970	145,099	154,081	165,389	174,737	183,792	198,302	212,402	222,596	231,868	237,036	239,720
Massachusetts	210,275	221,502	235,542	259,012	264,081	269,533	280,735	293,405	306,038	319,022	334,883	339,348	335,446
Michigan	269,235	282,107	303,501	314,405	311,677	324,452	335,516	340,558	351,063	351,475	355,864	339,402	317,795
Minnesota	140,062	150,387	158,388	172,868	177,469	184,167	195,259	208,025	219,805	225,268	232,627	237,486	231,144
Mississippi	49,429	51,462	53,703	55,139	56,169	57,306	60,988	64,433	67,884	72,521	76,181	78,182	75,219
Missouri	145,336	150,585	157,489	165,721	168,935	173,079	180,315	189,623	197,945	205,172	211,477	217,786	216,592
Montana	15,907	16,783	17,257	18,046	19,074	19,717	21,232	23,211	25,462	27,387	30,136	30,845	29,416



State	Private-industry output (\$millions)												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Nebraska	43,557	45,118	46,852	49,752	51,746	53,147	58,208	61,627	64,468	67,689	71,943	74,208	75,498
Nevada	52,994	56,830	62,839	67,735	71,594	75,611	80,372	92,325	105,047	112,706	117,950	114,414	104,397
New Hampshire	33,592	35,638	36,449	39,084	39,839	41,932	44,275	46,863	49,455	51,444	52,523	52,169	52,829
New Jersey	275,787	286,725	301,371	323,340	333,516	346,052	360,221	376,317	394,845	414,735	427,566	437,102	426,217
New Mexico	40,733	38,371	40,694	42,463	42,984	43,972	47,833	53,360	56,640	59,669	62,233	65,146	61,481
New York	631,643	652,579	692,689	727,114	763,150	775,172	789,161	837,837	903,076	957,676	996,512	971,146	999,484
North Carolina	202,836	212,510	229,985	241,356	253,935	262,428	271,913	287,624	309,504	335,101	340,268	347,467	348,246
North Dakota	13,237	14,240	14,368	15,146	15,991	17,012	18,726	19,644	20,958	22,560	24,641	27,951	27,496
Ohio	303,306	320,071	332,843	346,927	350,064	363,754	376,018	398,165	413,954	426,401	436,358	433,616	416,452
Oklahoma	66,653	68,207	71,257	77,169	81,776	82,704	88,581	95,764	105,479	116,060	122,153	134,104	119,060
Oregon	87,416	91,433	92,984	102,382	101,049	104,855	110,125	123,906	129,048	143,957	150,662	158,908	158,579
Pennsylvania	317,246	332,727	348,496	366,364	382,577	392,468	407,597	427,772	448,883	471,436	491,982	502,379	501,024
Rhode Island	24,425	25,947	27,367	29,238	30,724	32,582	34,659	37,062	38,499	40,621	40,664	40,040	40,624
South Carolina	83,647	89,042	94,660	98,703	102,656	106,348	111,571	114,743	121,106	127,910	134,937	135,317	133,292
South Dakota	16,447	17,537	18,431	20,028	21,043	23,787	24,966	26,813	27,468	28,201	30,932	32,972	32,186
Tennessee	135,148	146,745	155,234	161,476	166,701	173,243	181,816	194,557	200,707	210,341	214,743	219,095	214,825
Texas	541,606	579,309	612,362	667,079	698,009	705,117	742,432	816,726	887,506	976,115	1,052,764	1,108,457	1,027,150
Utah	47,902	51,977	55,422	59,849	62,801	64,778	67,718	73,432	80,886	91,423	100,580	100,229	97,239
Vermont	13,520	14,023	14,910	15,883	16,613	17,361	18,292	19,375	20,139	20,747	21,159	21,532	21,422
Virginia	177,554	191,378	207,031	221,928	235,042	239,348	252,900	269,074	293,598	310,021	320,020	323,593	331,225
Washington	166,142	181,352	199,345	207,405	206,888	213,686	221,799	231,753	254,238	270,161	295,730	302,421	298,029
West Virginia	32,718	33,634	35,103	35,573	36,423	37,362	38,211	40,782	44,067	47,235	48,675	51,828	52,150
Wisconsin	138,622	146,594	154,944	161,849	167,028	173,294	181,031	192,216	201,499	210,066	216,429	216,639	215,677
Wyoming	12,404	12,457	13,132	14,593	15,863	16,095	17,826	20,088	23,935	28,988	32,213	38,749	32,806

State	Private-industry output (\$millions)												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009

NA = not available.

NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years); Bureau of Economic Analysis, Gross Domestic Product data (various years).

Science and Engineering Indicators 2016

State	Business-performed domestic R&D/private-industry output (Percent)			
	2010	2011	2012	2013
United States	2.18	2.20	2.16	2.22
Alabama	1.00	1.25	0.83	0.96
Alaska	0.17	0.18	0.08	0.10
Arizona	1.92	2.25	2.17	2.21
Arkansas	0.30	0.36	0.31	0.28
California	3.82	4.26	4.41	4.61
Colorado	1.74	1.86	1.70	1.79
Connecticut	3.13	3.59	3.41	3.62
Delaware	4.18	3.98	4.61	4.28
District of Columbia	0.36	0.61	0.37	0.68
Florida	0.81	0.94	0.78	0.83
Georgia	1.03	1.05	1.02	1.01
Hawaii	0.49	0.47	0.34	0.37
Idaho	2.36	2.39	2.16	2.35
Illinois	2.10	1.98	2.04	2.01
Indiana	1.96	2.35	2.23	2.30
Iowa	1.56	1.75	1.25	1.38
Kansas	1.37	1.29	1.72	1.58
Kentucky	0.64	0.88	0.71	0.82
Louisiana	0.21	0.21	0.16	0.16
Maine	0.57	0.66	0.60	0.78
Maryland	1.77	2.02	1.55	1.78
Massachusetts	3.99	4.34	4.61	4.44
Michigan	3.61	3.90	4.07	4.13
Minnesota	2.57	2.41	2.34	2.39
Mississippi	0.31	0.29	0.32	0.24
Missouri	3.64	NA	3.00	2.96
Montana	0.47	0.40	0.30	0.25
Nebraska	0.67	0.74	0.65	0.65

State	Business-performed domestic R&D/private-industry output (Percent)			
	2010	2011	2012	2013
Nevada	0.68	0.60	0.58	0.47
New Hampshire	3.34	3.69	3.18	3.38
New Jersey	3.66	3.16	3.40	2.93
New Mexico	0.86	0.72	0.66	0.75
New York	1.04	1.11	1.02	1.01
North Carolina	1.61	1.68	1.64	2.01
North Dakota	0.78	0.74	0.50	0.50
Ohio	1.59	1.53	1.63	1.63
Oklahoma	0.38	0.45	0.32	0.34
Oregon	2.60	2.61	2.87	3.12
Pennsylvania	1.78	1.82	1.69	1.88
Rhode Island	1.27	1.28	1.03	1.25
South Carolina	0.96	0.98	1.10	0.67
South Dakota	0.36	0.37	0.29	0.41
Tennessee	0.56	0.62	0.59	0.56
Texas	1.31	1.27	1.17	1.11
Utah	2.04	2.28	1.94	2.52
Vermont	1.39	1.60	1.93	1.66
Virginia	1.36	1.60	1.32	1.20
Washington	4.40	4.59	4.35	4.26
West Virginia	0.43	0.42	0.53	0.52
Wisconsin	1.76	1.75	1.72	1.68
Wyoming	0.11	0.12	0.08	0.08
Puerto Rico	NA	NA	NA	NA

State	Business-performed domestic R&D/private-industry output (Percent)			
	2010	2011	2012	2013
NA = not available.				
NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data.				

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years); Bureau of Economic Analysis, Gross Domestic Product data (various years).

Science and Engineering Indicators 2016

State	Business-performed domestic R&D (\$millions)			
	2010	2011	2012	2013
United States	278,977	294,093	302,250	322,528
Alabama	1,449	1,879	1,284	1,563
Alaska	74	84 e	39 e	46
Arizona	4,054	4,931	4,962	5,208
Arkansas	276	344	305	288
California	64,914	75,035	81,689	89,373
Colorado	3,899	4,310	4,105	4,522
Connecticut	6,498	7,504	7,343	8,010
Delaware	2,144	2,097	2,415	2,310 i
District of Columbia	235	415	260	488
Florida	5,127	5,988	5,211	5,795
Georgia	3,644	3,839	3,875	4,023
Hawaii	257	252	188	214 i
Idaho	1,120 i	1,171	1,079	1,238
Illinois	12,221	12,038	13,001	13,096
Indiana	4,985	6,158	6,044	6,479
Iowa	1,950	2,314	1,763	2,052
Kansas	1,492	1,509	2,072	1,942
Kentucky	889	1,278	1,074	1,279
Louisiana	428	459	363 i	354
Maine	251	295	275	365
Maryland	4,384	5,101	4,028	4,770
Massachusetts	14,020	15,722	17,491	17,395
Michigan	12,144	13,660	14,912	15,925
Minnesota	6,246	6,174	6,216	6,614
Mississippi	243	235	273	211
Missouri	8,106 i	NA	6,982 i	7,174 i
Montana	145	136	105 i	92
Nebraska	527	636	578	627

State	Business-performed domestic R&D (\$millions)			
	2010	2011	2012	2013
Nevada	709	638	634	525
New Hampshire	1,818	2,069	1,857	2,045
New Jersey	15,925	13,930	15,810	14,022
New Mexico	546	472	445	519
New York	10,954	12,072	11,732	12,032
North Carolina	5,749	6,193	6,254	8,083
North Dakota	236	261	222	229
Ohio	6,857	6,993	7,755	8,118
Oklahoma	478	604	463	505
Oregon	4,396	4,631	5,156 i	5,635
Pennsylvania	9,246	9,718	9,318	10,761
Rhode Island	531	542	450	571
South Carolina	1,316	1,399	1,615	1,016
South Dakota	120	136	112	164
Tennessee	1,244	1,434	1,437	1,423
Texas	14,384	15,309	15,163	15,550
Utah	2,066	2,438	2,134	2,945
Vermont	313	374 i	466 i	406 i
Virginia	4,655	5,562	4,756	4,445
Washington	13,545	14,558	14,494	14,860
West Virginia	240	247	305	306
Wisconsin	3,927	4,053	4,135	4,227
Wyoming	39 e	46 e	30 e	28 e
Puerto Rico	NA	NA	NA	NA

State	Business-performed domestic R&D (\$millions)			
	2010	2011	2012	2013
NA = not available. e = more than 50% of the cell value is imputed due to raking of state data; i = more than 50% of value is imputed due to reasons other than raking of state data;				
NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data. Please see source for information on estimation techniques.				

NA = not available. e = more than 50% of the cell value is imputed due to raking of state data; i = more than 50% of value is imputed due to reasons other than raking of state data;

NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data. Please see source for information on estimation techniques.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years); Bureau of Economic Analysis, Gross Domestic Product data (various years).

Science and Engineering Indicators 2016

State	Private-industry output (\$millions)			
	2010	2011	2012	2013
United States	12,826,507	13,348,439	13,971,970	14,556,407
Alabama	144,622	149,964	154,599	162,028
Alaska	43,113	46,806	47,424	46,892
Arizona	211,634	219,553	229,111	235,928
Arkansas	91,524	96,030	99,036	103,403
California	1,700,074	1,761,596	1,852,214	1,937,758
Colorado	223,684	231,813	241,380	252,031
Connecticut	207,885	209,106	215,089	221,442
Delaware	51,231	52,701	52,411	54,033
District of Columbia	65,499	68,335	70,111	72,149
Florida	629,527	636,392	664,072	697,885
Georgia	352,925	364,251	378,347	396,590
Hawaii	52,126	53,720	56,008	58,483
Idaho	47,493	48,933	49,968	52,667
Illinois	581,741	607,102	636,583	650,576
Indiana	254,391	262,478	271,231	282,149
Iowa	124,697	132,488	141,398	148,223
Kansas	108,669	116,763	120,421	122,655
Kentucky	139,332	145,891	151,140	155,953
Louisiana	206,125	214,187	223,352	219,919
Maine	44,048	44,520	45,658	47,062
Maryland	247,342	253,128	259,561	267,753
Massachusetts	351,134	362,419	379,742	391,806
Michigan	336,273	350,048	366,508	385,632
Minnesota	242,842	255,828	265,626	276,408
Mississippi	78,042	80,246	85,734	86,244
Missouri	222,576	224,396	232,927	242,647
Montana	31,163	33,827	35,423	36,497
Nebraska	78,963	85,823	89,505	96,072

State	Private-industry output (\$millions)			
	2010	2011	2012	2013
Nevada	104,213	107,182	109,729	112,677
New Hampshire	54,365	56,093	58,319	60,448
New Jersey	434,996	441,089	465,092	478,482
New Mexico	63,451	65,994	66,977	69,168
New York	1,049,483	1,083,728	1,151,233	1,187,994
North Carolina	357,644	367,921	381,207	402,007
North Dakota	30,386	35,411	44,123	45,889
Ohio	430,499	456,407	477,040	497,611
Oklahoma	125,225	135,402	142,954	149,082
Oregon	168,908	177,185	179,700	180,815
Pennsylvania	518,071	535,213	552,393	571,846
Rhode Island	41,872	42,233	43,703	45,649
South Carolina	137,246	142,537	146,629	152,201
South Dakota	33,652	37,192	38,019	39,644
Tennessee	221,839	230,811	245,593	254,928
Texas	1,099,793	1,201,514	1,295,294	1,401,413
Utah	101,161	106,714	110,140	116,865
Vermont	22,539	23,446	24,137	24,515
Virginia	341,841	348,160	359,263	369,592
Washington	307,718	317,330	333,177	348,501
West Virginia	55,200	58,583	57,061	58,934
Wisconsin	222,788	232,235	240,297	251,101
Wyoming	34,944	37,715	35,311	36,160
Puerto Rico	NA	NA	NA	NA

State	Private-industry output (\$millions)			
	2010	2011	2012	2013
NA = not available.				
NOTES: The national totals for business-performed R&D in the United States include undistributed business-performed R&D and states with suppressed data.				

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years); Bureau of Economic Analysis, Gross Domestic Product data (various years).

Science and Engineering Indicators 2016